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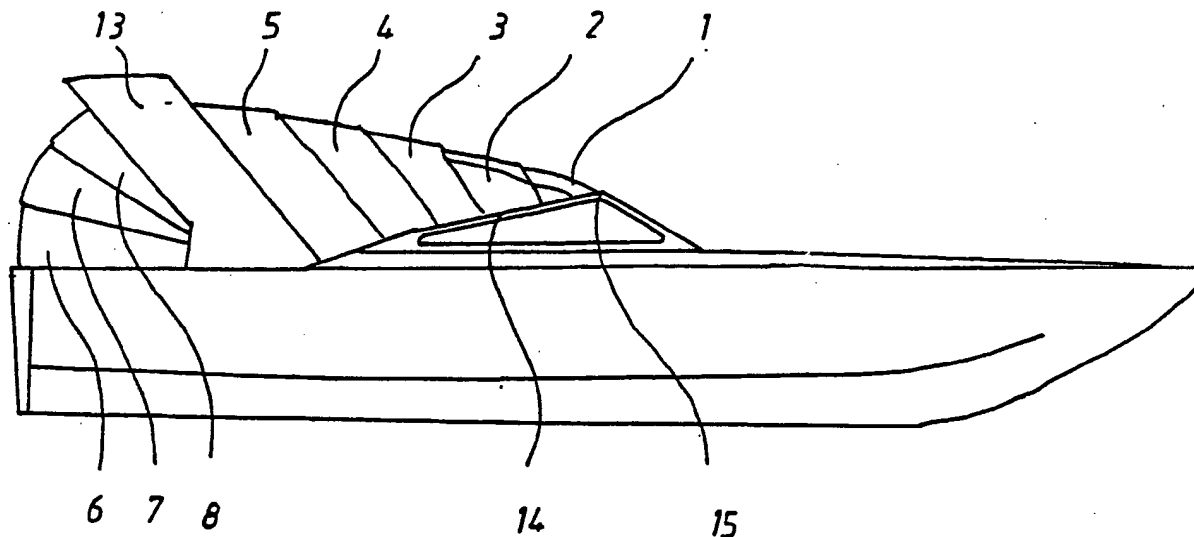
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(54) Title: A COVER DEVICE



## (57) Abstract

A cover device, preferably intended for boats, comprising a number of cover plates which are telescopically insertable into and extractable from each other. According to the invention the cover plates (1-5a; 1-5b) are divided at the middle part of the boat so that the cover plates are divided into two halves and are displaceably connected to a middle portion (12), comprising a dividing line, where the halves of the cover plates (1-5a; 1-5b) are independent of each other and displaceable along the middle portion (12) and lockable by means of a fastening device in the front edge of the boat, where the cover plates (1-5) cooperate with a guiding list (10), which is fastened on the upper edge portion of the hull of the boat for obtaining a good sealing.

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## A COVER DEVICE

This invention relates to a device called a cover device, preferably for boats comprising a number of cover sheets which are telescopically insertable and extractable in relation to each other.

Conventional cover devices for boats as a rule comprise cloth material which is  
5 suspended in metal arches and are detachably fastened to the hull of the boat.

Such a cover device has several drawbacks. Firstly, the cover device as a rule is not transparent. Secondly, it is difficult to get tight joints between the cover device and the hull of the boat since the fastening is made by so called conventional fastening elements. Thirdly, the cover device is sensitive for combers and hard wind.

10 Another drawback with conventional cover devices is that these ones cannot be utilized for locking the boats in order to make thieving of equipment stored in the boat more difficult.

By U.S. patent 4.659.136 is previously known a cover device for vehicles having a number of roof sections which are telescopically displaceable into each other. This device  
15 has a complicated construction and cannot be designed as two cover devices, independent of each other, over for instance the space of a boat which enables a partial covering of the space.

This invention intends to remove the problems with known technichs and to offer a cover device which can be operated manually or automatically in a simple way and besides  
20 that can be used as a flexible cover device where the covering of the space can be varied.

Parts of the space can be covered, for instance in order to protect persons from side wind during a boat trip out on the open sea.

The invention is described more closely in connection with the accompanying drawings, where Fig 1 shows a side view of a boat provided with a cover device comprising  
25 cover sheets, Fig 2 shows a view from above where cover sheets and a middle portion appear, Fig 3 shows a view from the stern, Fig 4 shows a view from the stern, Fig 5 shows a section of a joint part with tightening elements, Fig 6 shows a side view of cover sheets extracted, Fig 7 shows a side view where the cover sheets are in a retracted position, Fig 8 shows a cross section of a middle portion, and Fig 9 shows a section at a guiding strip.

30 The invention called cover device with extractable, transparent cover sheets principally comprises cover sheets 1-8, a guiding strip 10, 11, a middle portion 12 and a fastening arch 13.

Fig 1-4 shows a boat provided with the cover device.

The cover sheets 1-8 are in a non-extracted position and placed inside a fastening

arch 13. The cover sheets 1-5 are pulled forward towards the stern of the boat and is then connected tightly against the front portion 15 and to the side portion 14 of the hull of the boat. The cover sheets 6-8 are articulately connected to the fastening arch 13 in a joint 16 and in their upper position are retracted in the fastening arch 13.

5 Another alternative is to retract the cover sheets downwards in connection to the hull of the boat.

There is a handle positioned on the cover sheet 6 which can be manually pulled down from a retracted position in the fastening arch 13 and where cover sheets 7, 8 follow in the movement. This handle is used when the cover sheets 6-8 shall be retracted/extracted.

10 The cover sheet 6 is in connectin whith the hull of the boat with a strip 17. The cover sheet 6 can be locked in its lowermost position by means of a sort of a locking mechanism.

It is apparent from fig 2 that the front portion of the cover device is divided into two halves 1-5a, 1-5b, preferably symmetrical, for which for instance the central dividing line of  
15 the boat can be the dividing line.

The cover sheets 1-5a, 1-5b are independent of eachother and displaceable in relation to each other in the longitudinal direction. This makes possible that only the one half, for instance the cover sheets 1-5a, can be extracted while the cover sheets 1-5b can be kept in the fastening arch if that is desired. This is very much desireable when the boat is on the sea  
20 or at the quay and when there is a strong side wind and it is not desirable to cover up completely.

The cover sheets 6-8 at the stern portion of the boat can also be divided in the same way as at the stem portion. This embodiment, however, does not show that but only entire cover sheets which are continous from the left side of the hull to its right side.

25 Fig 5 shows a section at a joint between cover sheets 1-8. The cover sheets 1-8 are hooked into each other in special hooks 18 provided with sealing elements 19, for instance rubber. The hooks 18 can be designed with so called snap-in closure in order to give a stable and tight connection between the cover sheets.

Fig 6 and 7 show more in detail how the movement between the cover sheets 1-5 can  
30 be performed. The cover sheets 1-5 are in their upper part displacably/slideably connected to a middle portion 12 which enables removal of the cover sheets 1-5 in the longitudinal direction of the boat. The cover sheet 5 is in its lower part displaceably/slideably arranged to the fastening arch 13 in such a way that a movement of the cover sheet 5 is possible in the

connected to the cover sheet 5 in such a way that the cover sheet 4 can be displaced in the longitudinal direction of the boat. The journalling elements can for instance be a strip 20 positioned on a cover sheet 5, in which a bearing 21 or the like positioned on the cover sheet 4 can run and be a solid fastening element. The cover sheets 1, 2, 3 are journalled in the same way. The cover sheet 1 does not need to be equipped with a strip since no more cover sheets are necessary. However, the cover sheet 1 is provided with a handle and a locking mechanism for a solid fastening of the cover device, for instance to the front portion of the boat. The handle is provided for manually pulling forward the cover device comprising the cover sheets 1-5 from the fastening arch 13.

Fig 8 shows a cross section of the middle portion 12 which can comprise for instance of a number of rails 22 to which the cover sheets 1-5 can be journalled.

Fig 8a only shows a cross section of the middle portion.

Fig 8b shows the middle portion 13 when the cover sheets 1-5 are connected to the portion. The middle portion 12 has a cavity 23, into which it is possible to insert for instance a mechanism 26 for a mechanical extraction and retraction of cover sheets 1-5 by means of a motor or the like. A fastening device 25 for the cover sheet 1 enables a connection to a linear movement in the longitudinal direction of the boat. One or several tracks 29 in the middle portion 12 make possible to reach the cover sheet 1 for arranging the mechanical movement.

Fig 9 shows a cross section of a guiding strip 10 when the cover sheets are extracted. The purpose of the guiding strip is to be a drainage chute for water which is transported along the cover sheets 1-5 and to be a locking arrangement of cover sheets 1-5 and the end position. The locking arrangement at the end position comprises a wedge-formed stop element 27 where a pin 28 fastened on the inside of the cover sheets 1-5 are hooked at the final phase of the movement going out. This function is important in order to achieve a secure and solid fastening of the cover sheets to the hull.

The invention is not limited to what has been mentioned and described above but modifications are of course possible within the scope of the invention idea.

### Claims

1. A cover device, preferably intended for boats, comprising a number of cover sheets which are telescopically insertable into and extractable from each other, c h a r a c -  
t e r i z e d in that the cover sheets (1-5) are displacably arranged on each side of a middle  
5 portion (12) extending from the front fastening point (15) of the cover device to a fastening  
position at which the cover sheets (1-5) are stored in a retracted position, and where guiding  
strips (10) take up that edge of the cover sheet which is opposite to the edge fastened to the  
middle portion.

2. A cover device according to claim 1, c h a r a c t e r i z e d in that the cover  
10 sheets (1-5) are lockable in an extracted position.

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Fig 1.

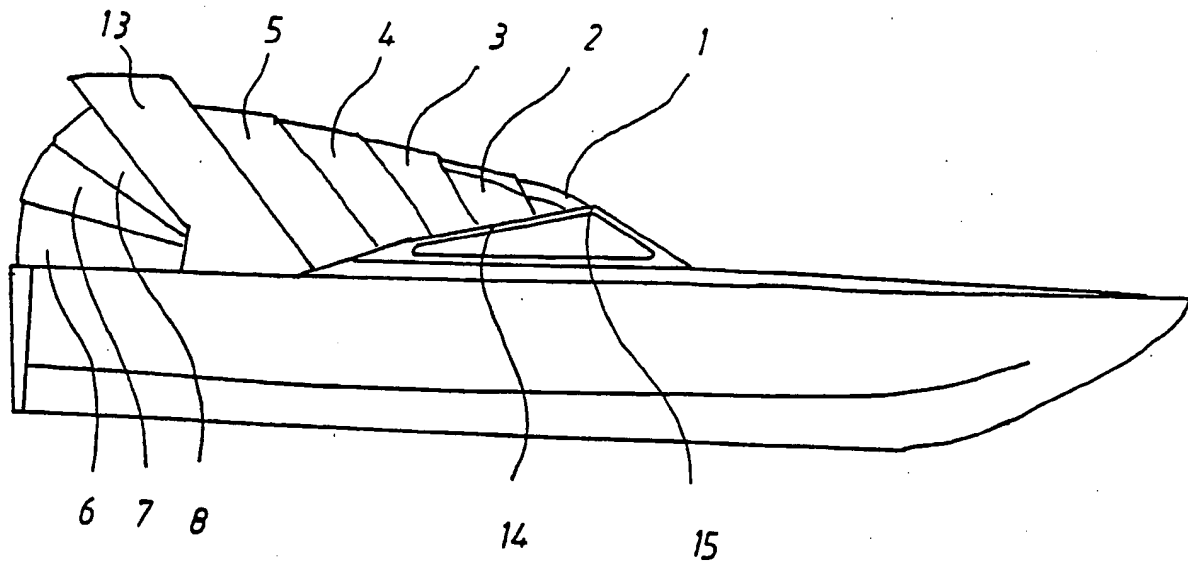


Fig 2

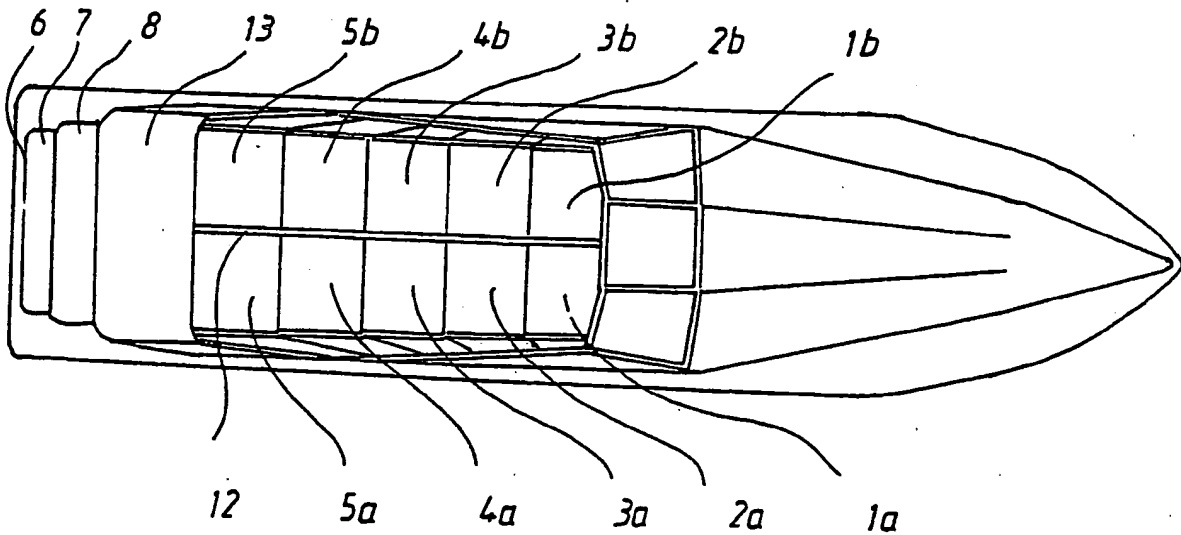


Fig 3

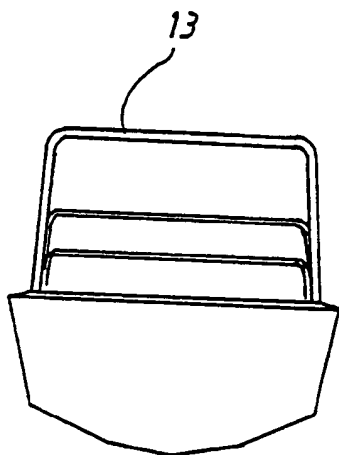


Fig 4

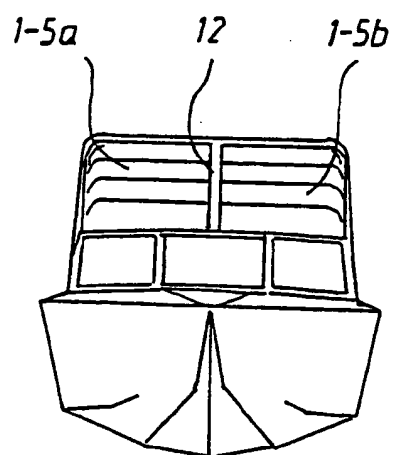


Fig 5

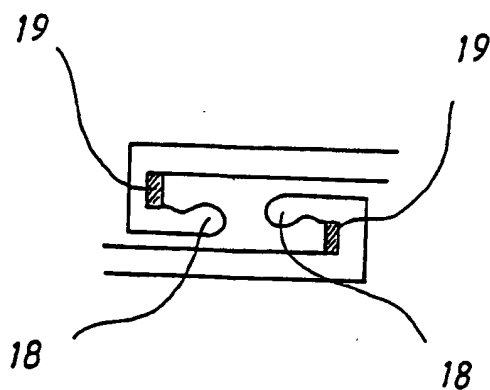






Fig 7.

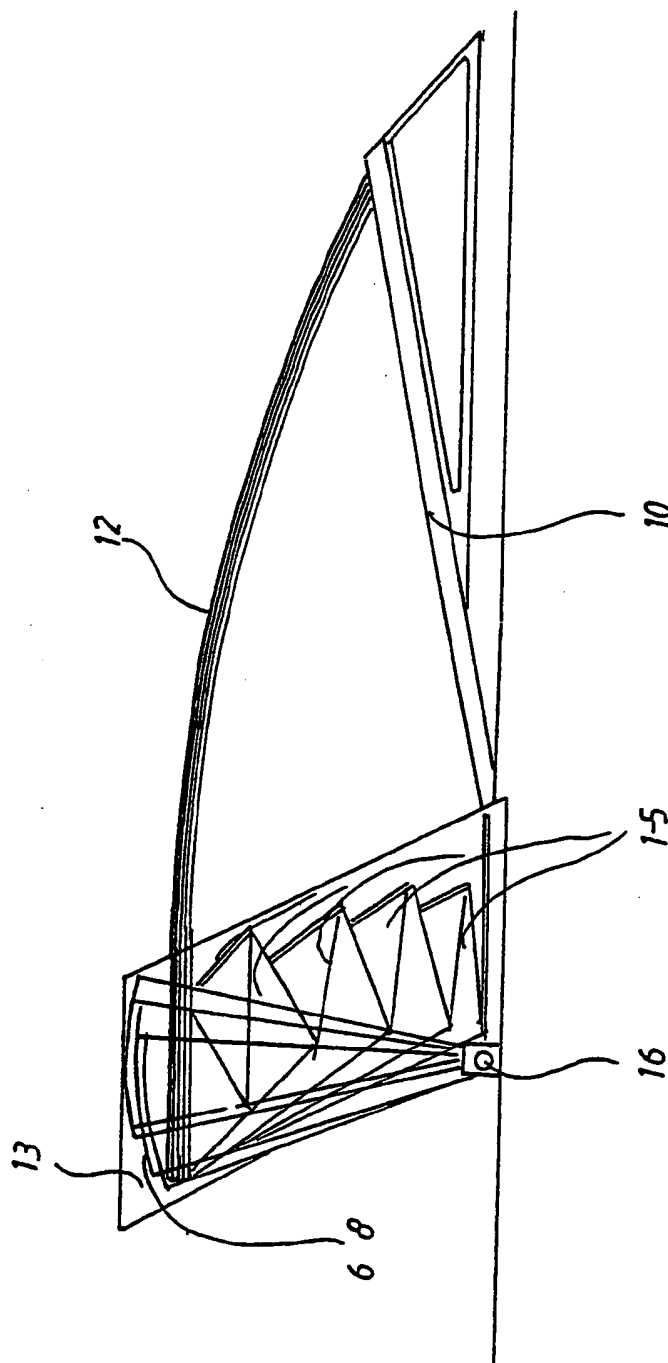


Fig 8a.

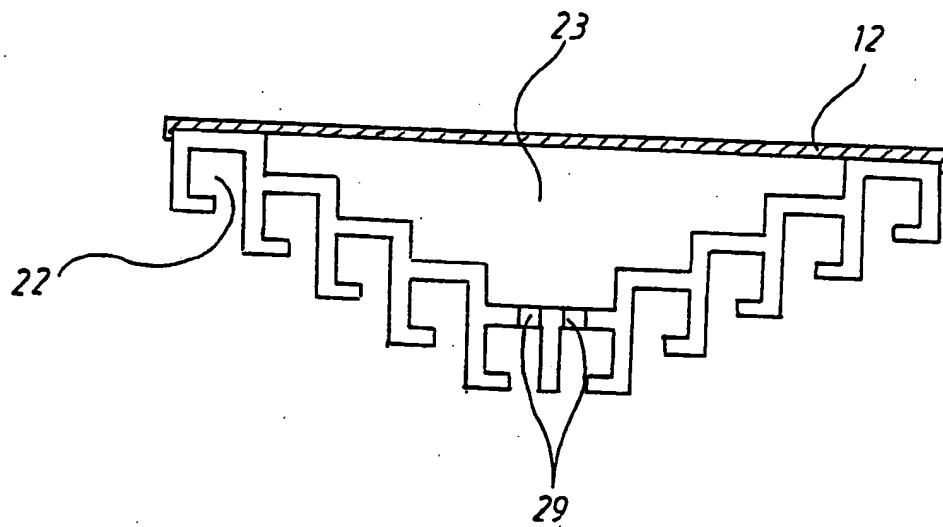


Fig 8b.

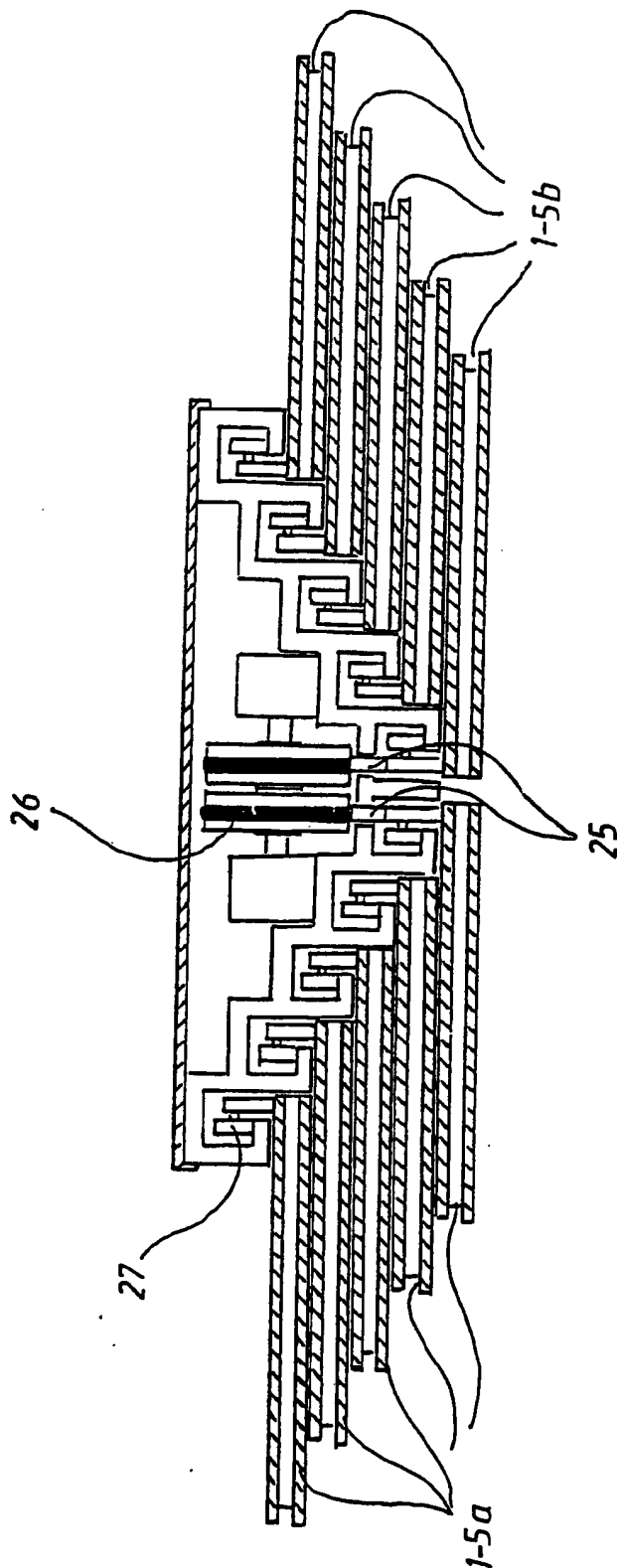
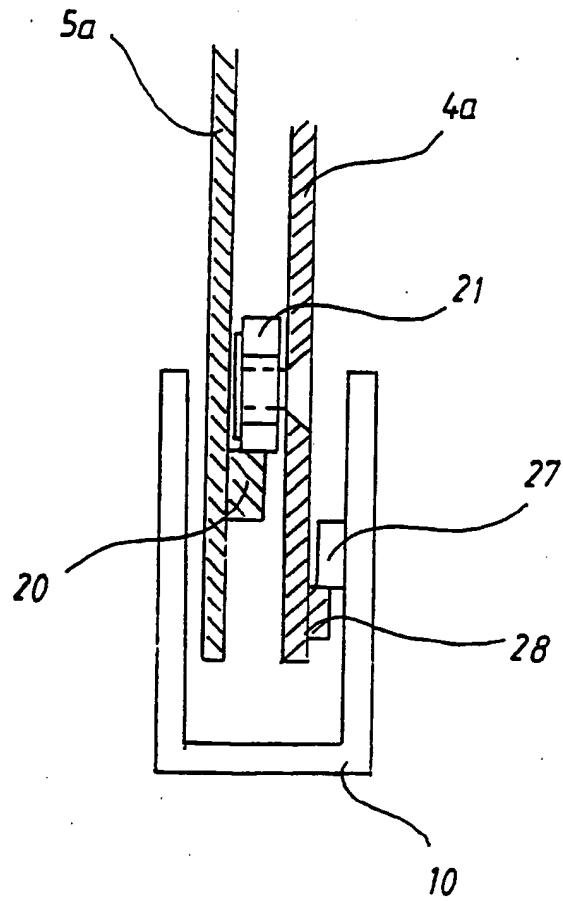


Fig 9



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## INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 92/00644

## A. CLASSIFICATION OF SUBJECT MATTER

IPC5: B63B 17/02, B60J 7/02

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC5: B60J, B60P, B63B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US, A, 4659136 (MARTIN ET AL), 21 April 1987 (21.04.87), figures 3,18, claim 1 --	1,2
A	US, A, 3910629 (WOODARD), 7 October 1975 (07.10.75), figures 3,4, claim 1 --	1,2
A	US, A, 3165352 (A W HALLOCK ET AL), 12 January 1965 (12.01.65), figures 1,2, claim 1 --	1,2
A	US, A, 2623779 (C. V. CATELL), 30 December 1952 (30.12.52), figure 3, claim 1 -- -----	1,2

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

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Information on patent family members

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US-A-	4659136	21/04/87	JP-A- 60259524	21/12/85
US-A-	3910629	07/10/75	NONE	
US-A-	3165352	12/01/65	NONE	
US-A-	2623779	30/12/52	NONE	

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